FINAL REPORT

ENDANGERED SPECIES OBSERVER PROGRAM

DREDGE *WHEELER*
Galveston/ Sabine-Neches Waterway
Galveston, TX

January - April, 1996

Submitted To:

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SCOPE OF WORK

Pursuant to a contract with the U.S. Army Corps of Engineers, Galveston District, maintenance dredging was conducted in the Galveston/Sabine-Neches waterway (GSNW), from 01/23/96 - 4/26/96, using the hopper dredge *Wheeler*, operated by the U.S. Army Corp of Engineers. Two endangered species observers, approved by the National Marine Fisheries Service (NMFS) and provided by Coastwise Consulting, Inc., lived onboard the *Wheeler* to monitor impacts to endangered and protected species, particularly sea turtles, 24 hours per day. The dredge was screened at all points of inflow (where dredged material is discharged into the hopper) in order to detect the presence of sea turtles and/or their parts. Turtle excluder devices (TEDs) were attached to each of the three dragheads. Observers worked around the clock cleaning and inspecting the screening and during daylight hours they monitored the water's surface for the presence of turtles and marine mammals.

METHODOLOGY

All points of inflow were screened before the observers boarded the dredge on 01/23. On the *WHEELER* three inflow pipes, one for each of the dredge's 3 dragarms, converge into two pipes (port and starboard) which discharge dredged material into the hopper bin. There are two primary points of discharge on each pipe, one at the forward end of the hopper and one aft. At each of these points the material is discharged through a cage of steel mesh. These cages are approximately 122cm x 183cm (48" x 72") and 91cm (36") deep. The openings in the mesh of the cages are not more than 10cm x 10cm (4" x 4"), per contract specifications. Observers gained access to the cages through heavy steel hatches. The secondary points of inflow were 3 openings (approximately 21cm x 100cm) on the underside of each discharge pipe between the forward and aft cages. These openings were thoroughly screened.

Observers inspected and cleaned the primary points of inflow (cages) at the end of every load. Secondary points of inflow were inspected after each load but rarely required cleaning. Dragheads and TEDs were also inspected immediately

after each load and dredge personnel were informed if the excluders were in need of repair. Data sheets were completed at the end of every load, detailing all biological samples and debris found in the screening and dragheads. Also recorded were the start, end and dump times for each load, the specific location of the dredging area, the type of material being dredged, weather, tide and water temperature data, the condition of the screening and the TEDs and any other pertinent information.

A bridge watch for sea turtles and marine mammals was maintained during all daylight hours (except when the observer was off the bridge cleaning and inspecting the screens, etc.). All sightings of cetaceans and sea turtles were recorded in a bridge watch logbook. Daily reports and weekly summaries were filed with the Corps of Engineers.

In the event of a turtle take or suspected take, the observers photograph the samples involved, as well as measure and inspect such samples. Samples not positively identified are frozen in the ship's freezer for later analyses. Positively identified samples are weighted with scrap-iron and buried under the tons of dredged material at the disposal site, thus ensuring that the same samples don't wash ashore or get taken by the dredge a second time. However, samples representing a small part of a turtle are routinely frozen and kept for 24 hours for comparison to any samples which might be encountered on subsequent loads. Injured but living turtles are driven to the National Marine Fisheries Services' sea turtle stranding facility in Galveston or to the Gladys Porter Zoo in Brownsville by one of the observers for rehabilitation. Uninjured turtles are photographed, weighed, measured and tagged in accordance with NMFS-approved procedures. The USACE, Galveston District representative (409-766-3999) and the NMFS Southeast Regional Office (813-570-5312) are notified by telephone immediately after any incident involving a sea turtle. Incident reports are completed for every event, recording all details surrounding the event.

RESULTS

Between 01/23/96 and 04/26/96, the dredge *Wheeler* dug 817 loads. Four of these loads were taken from the Galveston channel, as the dredge was called for the emergency dredging of that area on 02/26. On 02/29 the *Wheeler* resumed dredging

in the GSNW. Observers monitored all of the loads (100% coverage) and found no evidence of the take of sea turtles. The surface water temperature in the GSNW ranged from 8°C - 18°C during the winter, averaging 13.5°C. In April the range increased to 17°C- 27°C, averaging 23.3° C.

The material being dredged was primarily mud, silt, and clay with some rock and gravel. Clay often clogged screening and was, at times, an impediment to monitoring. There was a great deal of jettisoned debris collect on almost every load, particularly monofilament fishing line, plastics, rubber, scrap metal and netting. The most common biological samples included blue crabs, spider crabs, mollusks, bi-valves, and flatfish. During the emergency dredging in the Galveston channel, the dredged material was mostly sand and silt. The biological samples and debris in this area was similar to that in the GSNW. Bottlenose dolphins (Tursiops truncatus) were the only marine mammal species sighted from the dredge. Small pods of 1-5 animals were seen around the dredge several times weekly. No turtles were sighted from the bridge. It is unlikely, given the level of monitoring, that sea turtles were taken as a result of dredging activities.

The captain and the crew of the *Wheeler* provided generous assistance whenever it was requested by the observers. Their help maintaining the screening was invaluable. In addition, the assistance of Espey, Huston & Associates, as well as the USACE, Galveston District, ensured the monitoring program ran smoothly and efficiently. The cooperation of the above entities is greatly appreciated.